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SCS ENGINEERS

September 12, 2014
File No. 25214107 Task 1

MEMORANDUM

TO: File

FROM: David Hendron

SUBJECT: Meeting with Tim Bartus – Distribution Supervisor Water Department

ATTENDEES: Mr. Tim Bartus (Evanston DPW) and Mr. David M. Hendron (SCS Engineers)

1. **Means of failure of the water main along Dodge Street** – blowout, ground movement, age related deterioration. TB provided 6 maps showing the utilities in the vicinity of James Park (JP). They are shown in Attachments (ATT) 1 through 6 to this summary memo.

2. Attachment 1 (ATT 1) shows the approximate location of an unknown pipe that Public Works Department (PWD) first located in about 2004 when connections of the main water line along Dodge Street was made to the Dawes School. The approximate location of the excavation for the connection is shown as a pink line on ATT 1. The unknown pipe is a 10 to 12 inch diameter metal pipe that DPW has located at other points north of the Dawes School. DPW has done no investigation to see if the pipe is active. DPW assumes that the pipe is active. The pipe is generally less than 5 ft. deep below the grade of the area.

3. ATT 1 also shows where we excavated in the parkway near the Dawes School in an attempt to locate the unknown pipe. We did not find the pipe in the parkway. TB thinks that the pipe is a few feet east of the curb on Dodge Street. No further attempts were made to locate the pipe. TB said that the water line along Dodge Street between Oakton and Mulford will be replaced next year and the pipe can be located at that time.

4. TB said that the water line along Oakton west of Dodge was replaced in 2012 because of water main breaks. He did not have a map of the breaks in this area at this meeting. This map can probably be prepared in the future.

5. ATT 2 shows the locations of 12 water main breaks along Dodge Street south of Oakton to Mulford since the year 2000. TB attributed this breaks primarily to the age of the water main. TB did say that the water main in this area is "coated" with a 3" to 4" crust of black or dark brown organic appearing and smelling material. We took a sample of this material at a break that was being repaired at the corner of Mulford and Dodge during our investigation. We had chemistry testing on the crust material. Based on observations

during this excavation, I estimated that the water main was about 8 ft. to 10 ft. deep. It was below the unknown pipe and significantly above the sewer pipes in the area.

6. ATT 3 shows the water lines that exist in the JP area and cross the JP complex from Mulford north to Oakton. These lines were installed relatively recently (1965) and were not discussed at any length.

7. ATT 4 shows the approximate area of the water lines that were recently replaced (2012) along Oakton Street west of Dodge Street.

8. ATT 5 is a sewer line map showing the locations of the main sewers in the JP area. There is a collection of sewers in the southwest corner of the landfill near the locations of GMP-1 and GMP-1a.

9. TB brought out the plans showing details of the storm sewer connections between the Evanston system and the MWRD TARP system. A copy of pertinent pages of these drawings is given in ATT 7 through ATT 9. There are two important points shown on these plans. **First**, there is a new 72 inch diameter sewer pipe installed that runs along essentially the entire south side of JP. Most of this pipe was installed using cut and cover construction to a bottom elevation from 0.0 ft. CCD to -6 ft. CCD. **Second**, drawing number 5221D-RS26-R1 shows the location of a 48" Gas Main (abandoned). TB said he knew nothing about this gas main prior to viewing the drawing today. The location of this gas main is reasonably near the southwest corner of the JP landfill where GMP-1 is showing the presence of high concentration of methane at pressure of 13 psi. There is no further information on the nature and extent of the 48" gas main in the Evanston DPW files.

10. ATT 6 shows the locations where sewer and other pipelines cross the channel to the MWRD facilities. We do not have detailed drawings for these crossings. We need to get these detailed drawings to see how deep the crossings were excavated among the other things these drawings may show.

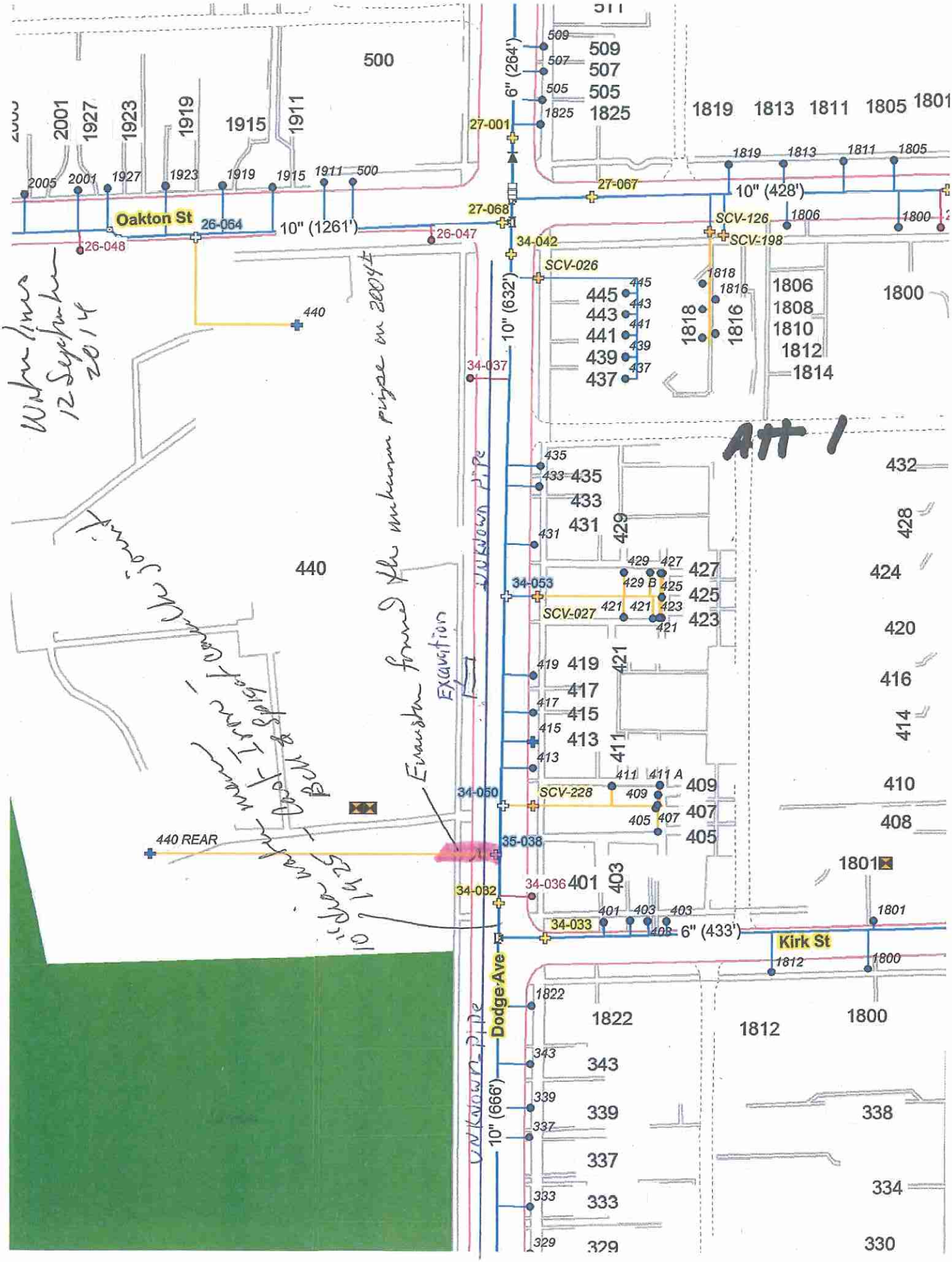
11. TB and DMH agreed that it is probably not necessary at this point in time to do further excavation to locate the unknown pipe along Dodge Street. TB said that this could be done next year (2015) when the water line along Dodge Street is scheduled to be replaced.

12. DMH would like to get additional information on the nature and extent of the 48" Existing gas main (abandoned) shown on the Harza drawings and on the nature and extent of the channel crossings shown on the ATT 6 drawing from the Evanston DPW.

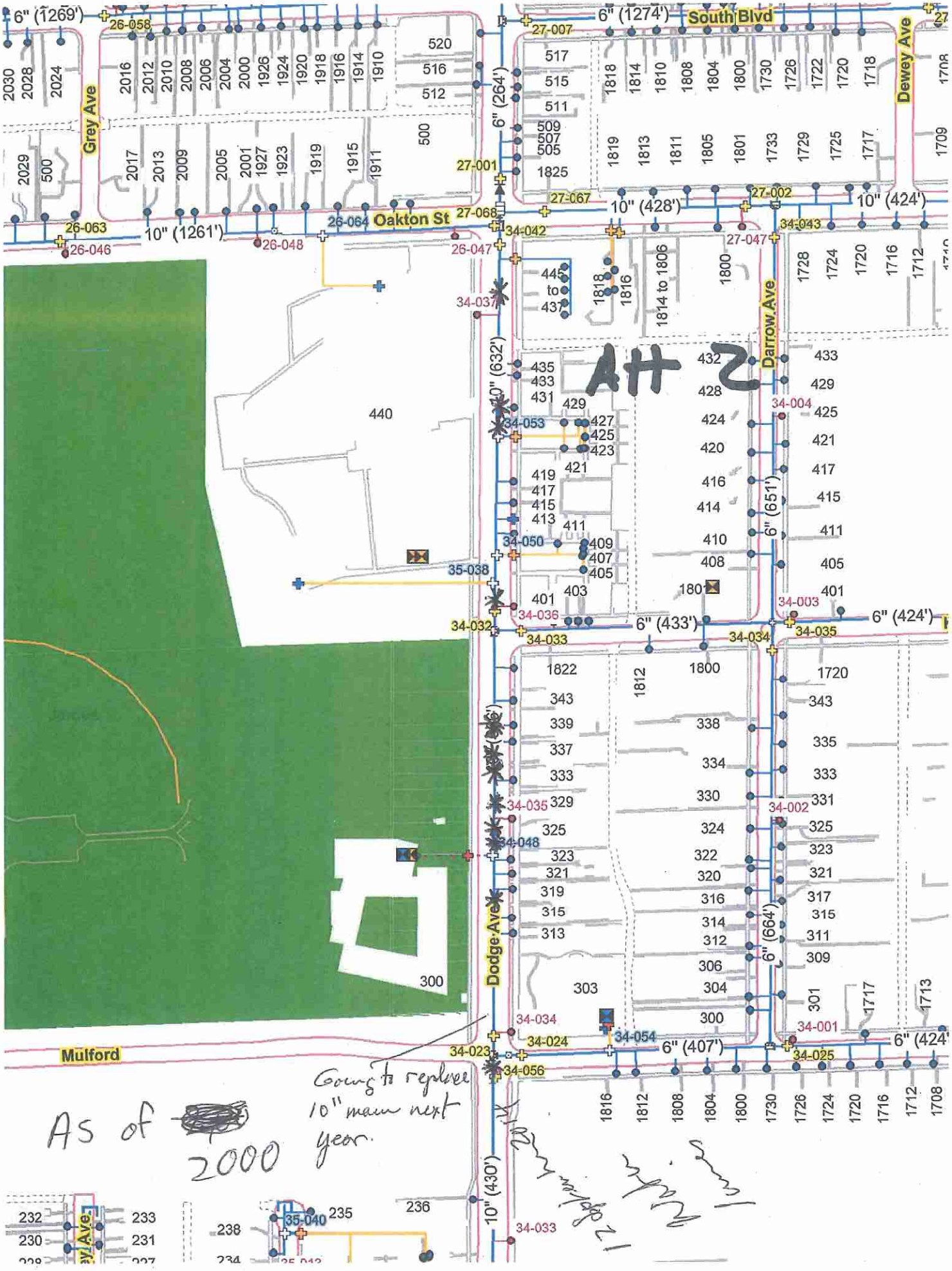
Attachments: 1 Through 7

DMH/lmh

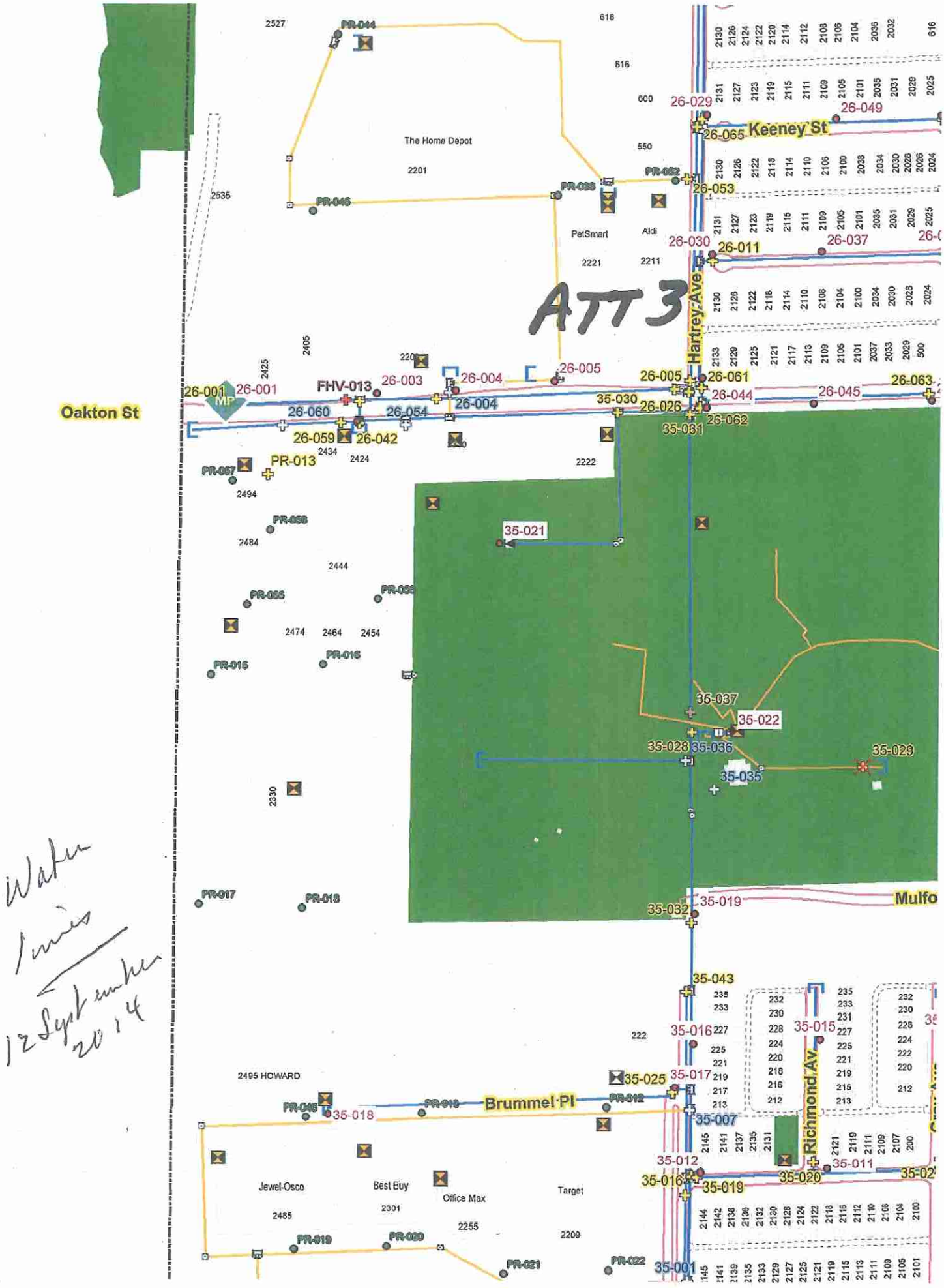
ATTACHMENT 1


Oakton St
10" (1261')
10" (632')
10" (428')
6" (264')
6" (433')
10" (666')
Dodge Ave
Kirk St
Unknown Pipe
Excavation
440 REAR
26-064
26-048
26-047
27-001
27-067
27-068
34-042
34-037
34-053
34-050
34-036
34-032
34-033
35-038
SCV-026
SCV-027
SCV-228
SCV-126
SCV-198
Att 1

ATTACHMENT 2

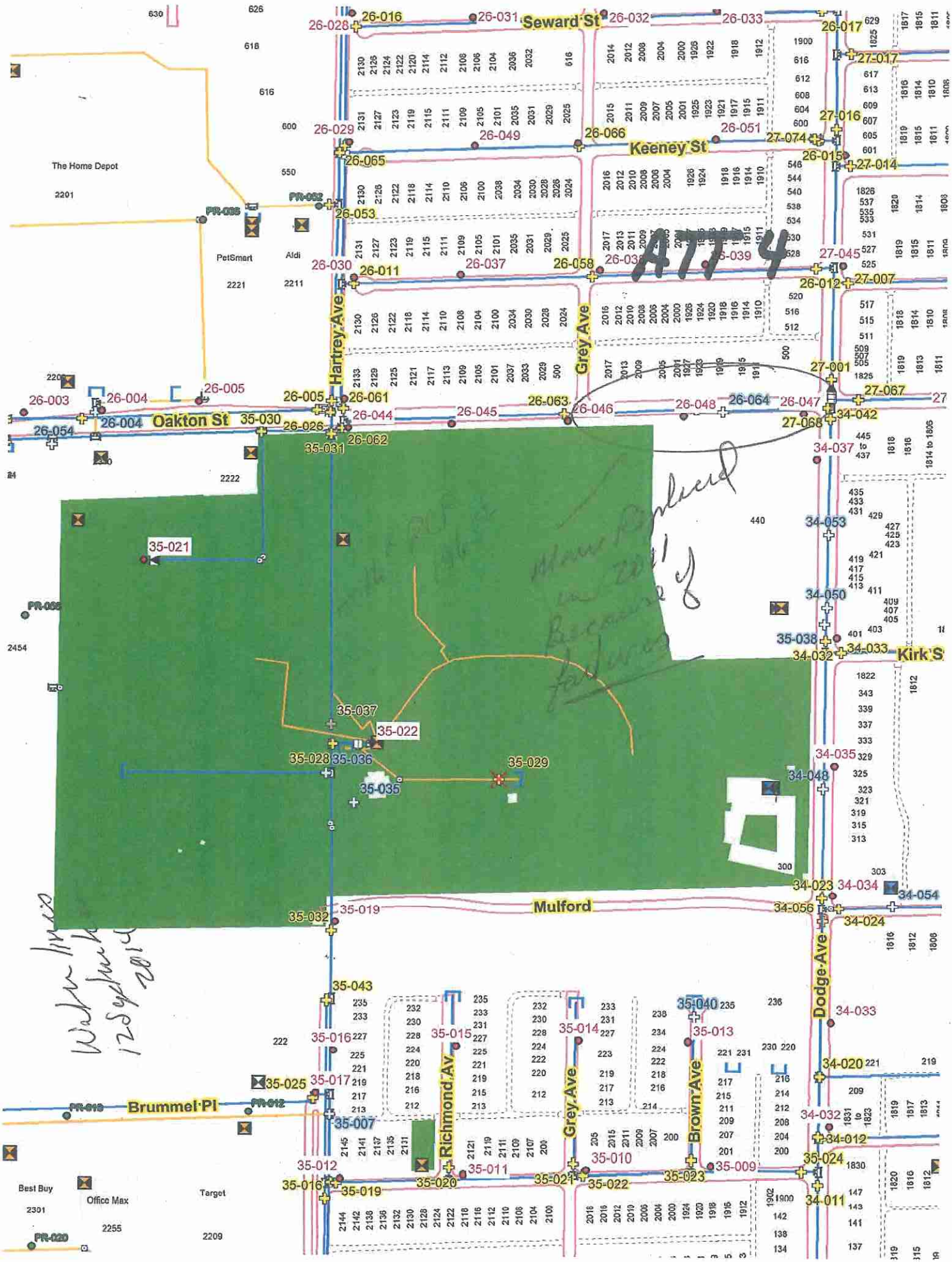

6" (1269')
26-058
Grey Ave
2030
2028
2024
2016
2012
2010
2008
2006
2004
2000
1926
1924
1920
1918
1916
1914
1910
520
516
512
500
2029
500
2017
2013
2009
2005
2001
1927
1923
1919
1915
1911
26-063
26-046
10" (1261')
26-048
26-064
Oakton St
27-068
26-047
6" (1274')
27-007
South Blvd
Dewey Ave
517
515
511
509
507
505
1825
27-001
6" (264')
1818
1814
1810
1808
1804
1800
1730
1726
1722
1720
1718
1819
1813
1811
1805
1801
1733
1729
1725
1717
1709
27-067
10" (428')
27-002
10" (424')
34-042
34-043
27-047
445
to
437
1818
1816
1814 to 1806
1800
1728
1724
1720
1716
1712
34-037
Darrow Ave
435
433
431
429
427
425
423
421
419
417
415
413
411
409
407
405
403
401
440
10" (632')
34-053
34-050
35-038
432
428
424
420
416
414
410
408
180
433
429
425
421
417
415
411
405
401
6" (651')
34-004
34-003
6" (424')
34-036
34-032
6" (433')
34-033
34-034
34-035
1822
1812
1800
1720
343
339
337
333
329
325
323
321
319
315
313
338
334
330
324
322
320
316
314
312
306
304
300
303
335
333
331
325
323
321
317
315
311
309
301
1717
1713
6" (664')
34-002
34-048
34-035
Dodge Ave
300
Mulford
34-034
34-024
34-023
34-056
34-054
6" (407')
34-001
34-025
6" (424'
1816
1812
1808
1804
1800
1730
1726
1724
1720
1716
1712
1708
10" (430')
34-033
232
230
233
231
238
234
35-040
235
236
AH 2
As of
2000
Going to replace
10" main next
year.

ATTACHMENT 3

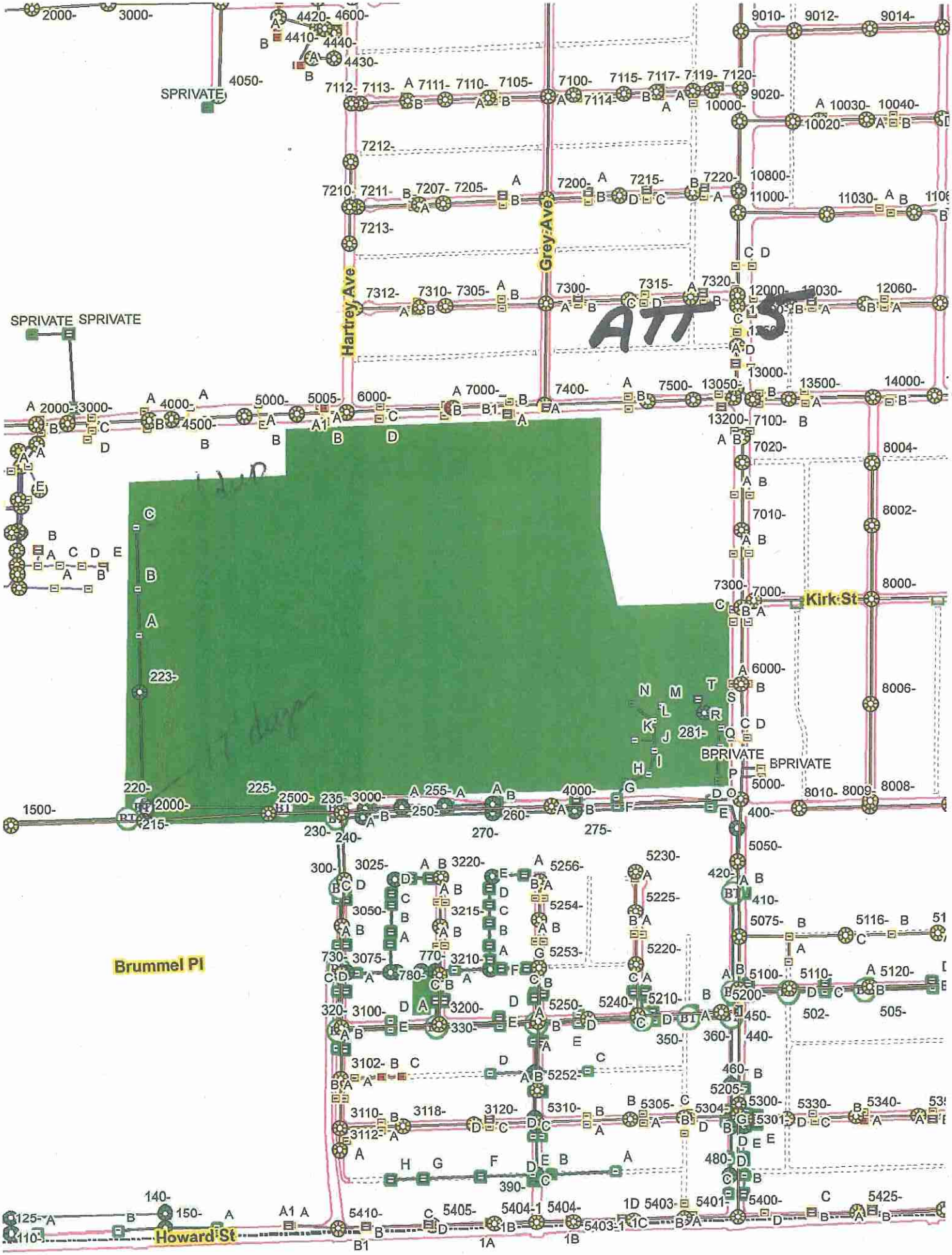


Water lines 12 Sept 2014

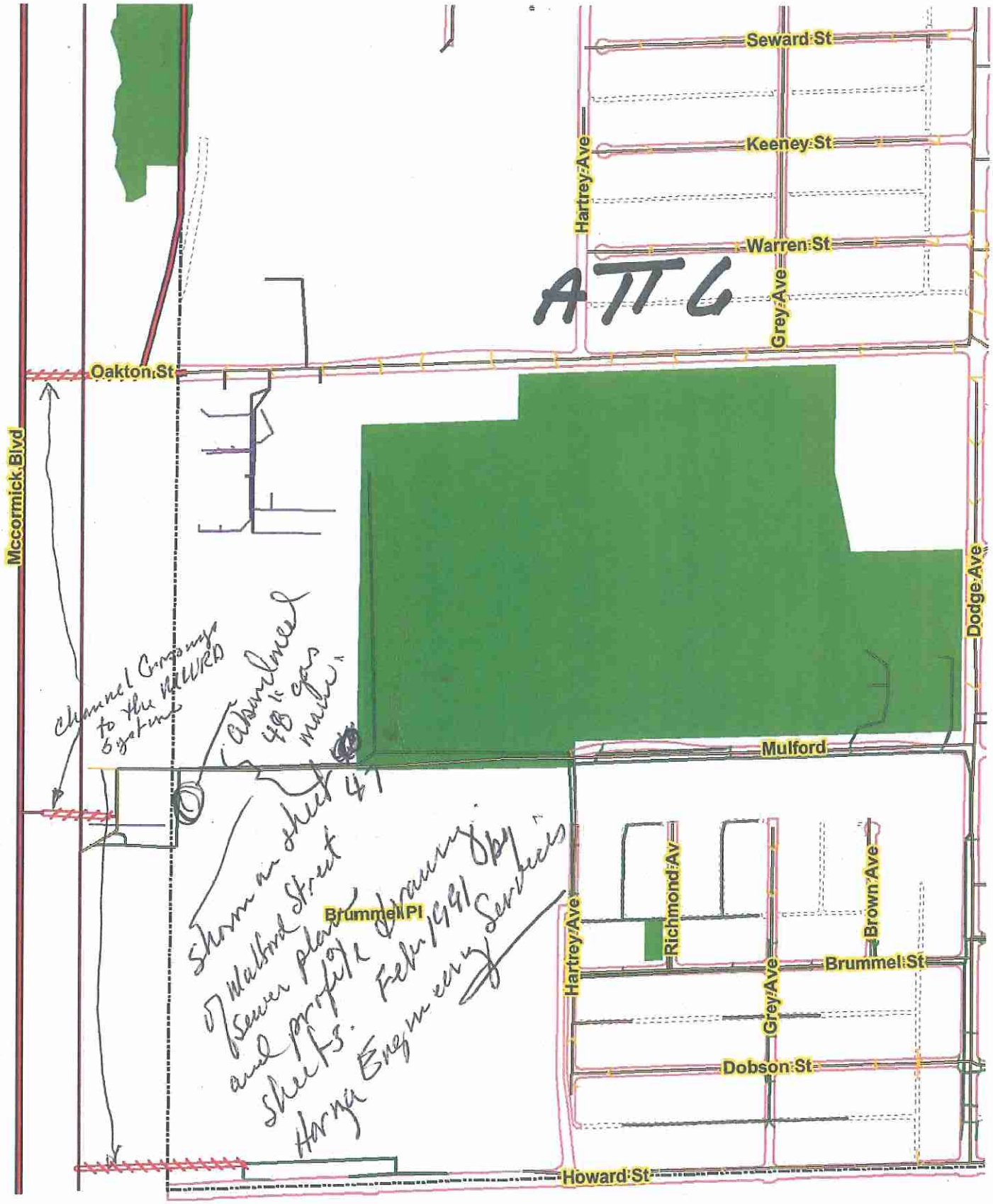
ATTACHMENT 4


Seward St
Keeney St
Oakton St
Hartrey Ave
Grey Ave
Mulford
Kirk S
Dodge Ave
Brummel Pl
Richmond Av
Brown Ave
The Home Depot
PetSmart
Aldi
Best Buy
Office Max
Target
ATT4

ATTACHMENT 5

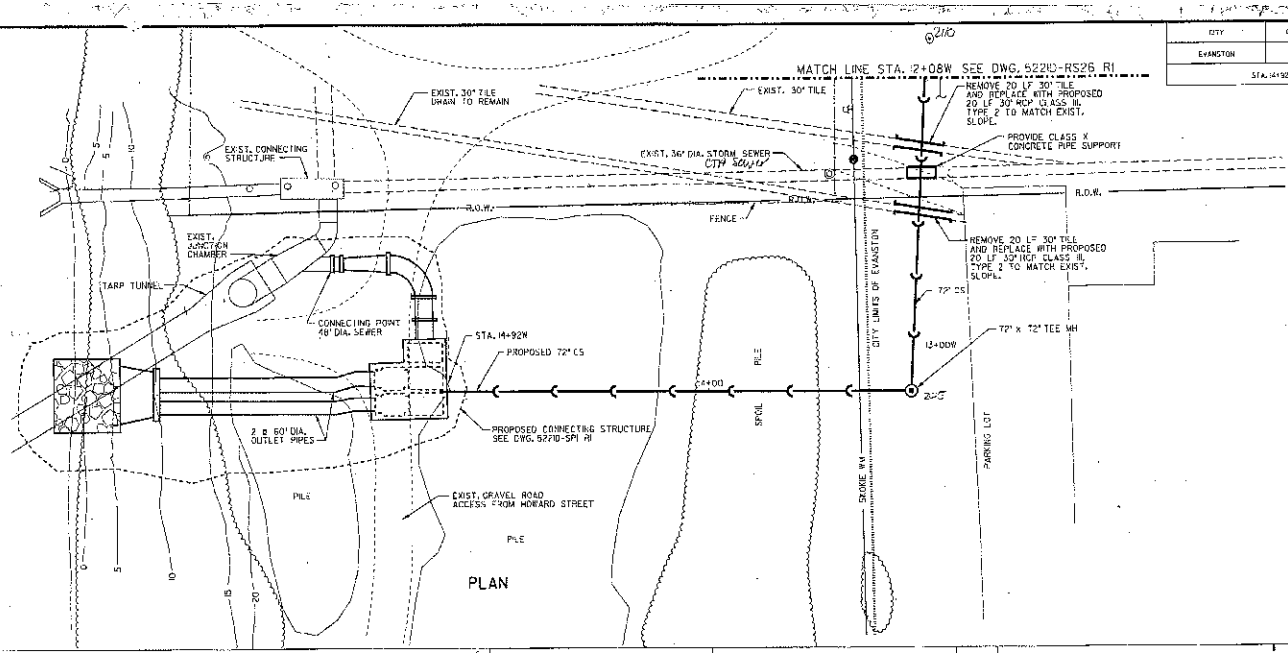

Hartrey Ave
Grey Ave
Kirk St
Howard St
Brummel Pl
SPRIVATE
BPRIVATE
ATT 5

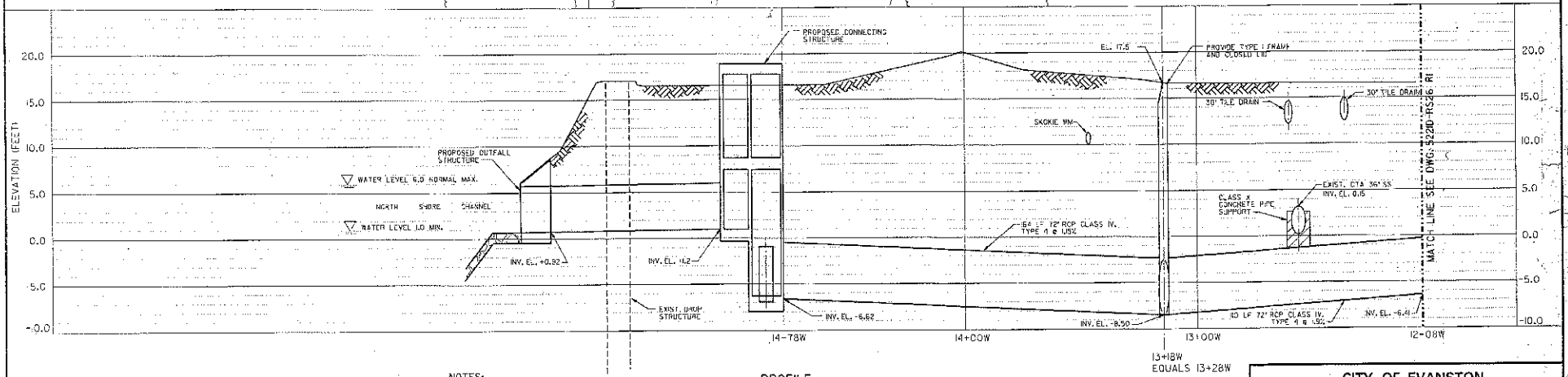
ATTACHMENT 6


Seward St
Keeney St
Warren St
Hartrey Ave
Grey Ave
Oakton St
Mccormick Blvd
Dodge Ave
Mulford
Brummel Pl
Richmond Av
Brown Ave
Brummel St
Dobson St
Howard St
ATG
Channel Crossing to the KELLER Systems
Shown on sheet 47
of Walford Street
Sewer plan drawing
and profile
sheets. Feb. 1991
Harza Engineering Services

ATTACHMENT 7

CITY	COUNTY	SHEET NO.	SHEET NO.
EVANSTON	COOK	90	46
STA. 14+92W TO STA. 12+08W			





PROFILE

NOTES:

1. CONTRACTOR SHALL BACKFILL WITH TDF FROM THE CENTERLINE OF EXIST. UTILITIES TO 0' ABOVE TOP OF PROPOSED COMBINED SEWER AT CROSSINGS OF EXIST. UTILITIES ABOVE COMBINED SEWER IN UNPAVED AREAS.

RECORD DRAWING REVIEWED AND APPROVED BY:

McHALLY TUNNELING CORPORATION
CONTRACTOR

HARZA ENVIRONMENTAL SERVICES, INC.
ENGINEER

APPROVED		
DSGN.		REVIEWED
CHKD.		CIVIL.
DWN.		MECH.
CHKD.		ELECT.
SUBM.		

HORIZ. 0 20' 40' 1"=20'-0"

VERT. 0 5' 10' 1"=5'-0"

REV. NO.	DWG. TRANSMITTAL LETTER NO.	DATE	NATURE OF REVISION	BY	CHKD.	APPD.
R2		12/99	RECORD DRAWING	BP	DTG	
R1		3/22/99	INV. EL. ADDED TO OUTLET PIPES	SSD		

CITY OF EVANSTON
Evanston, Illinois

BASINS S06 AND S13 FLOOD RELIEF | RELIEF SEWER SYSTEM

MULFORD STREET SEWER PLAN AND PROFILE

STA. 14+92W TO STA. 12+08W

HARZA ENVIRONMENTAL SERVICES, INC.
CHICAGO, ILLINOIS

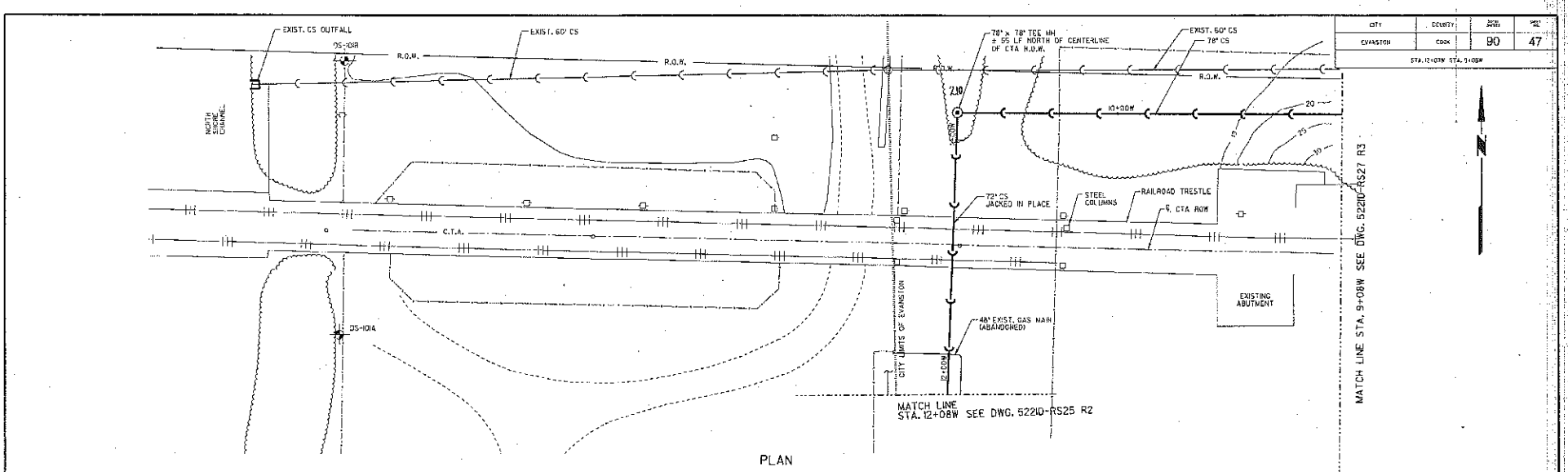
PROJECT MANAGER

DATE: FEB. 1999

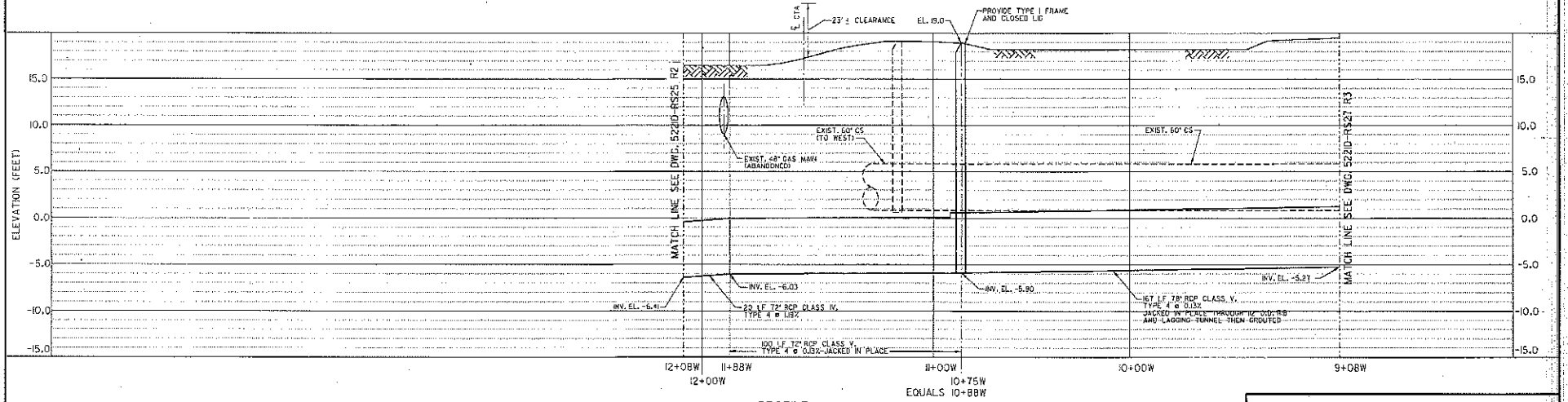
DRAWING NO. 5221D-RS25 R2

5239w/125h 24bit
0.000,104

ATTACHMENT 8



PLAN



PROFILE

CITY	COUNTY	ACAD AREA	SHEET NO.
EVANSTON	COOK	90	47
STA. 12+03W STA. 9+08W			

RECORD DRAWING
REVIEWED AND APPROVED BY:

McNALLY TUNNELING CORPORATION
CONTRACTOR

HARZA ENVIRONMENTAL SERVICES, INC.
ENGINEER

APPROVED		
DSGN.	MA	REVIEWED
CHKD.	MA	CIVIL.
DWN.	MAC	MECH.
CHKD.	MA	ELECT.
SUBM.		

HORZ. 0 20' 40' 1"=20'-0"

VERT. 0 5' 10' 1"=5'-0"

REV. NO.	DWG. TRANSMITTAL LETTER NO.	DATE	NATURE OF REVISION	BY	CHKD.	APPD.
R1		12/93	RECORD DRAWING	BP	DTG	

CITY OF EVANSTON
Evanston, Illinois

BASINS S06 AND S13 FLOOD RELIEF	RELIEF SEWER SYSTEM

MULFORD STREET SEWER PLAN AND PROFILE

STA. 12+08W TO STA. 9+08W

HARZA ENVIRONMENTAL SERVICES, INC.
CHICAGO, ILLINOIS

PROJECT MANAGER

DATE: FEB. 1991

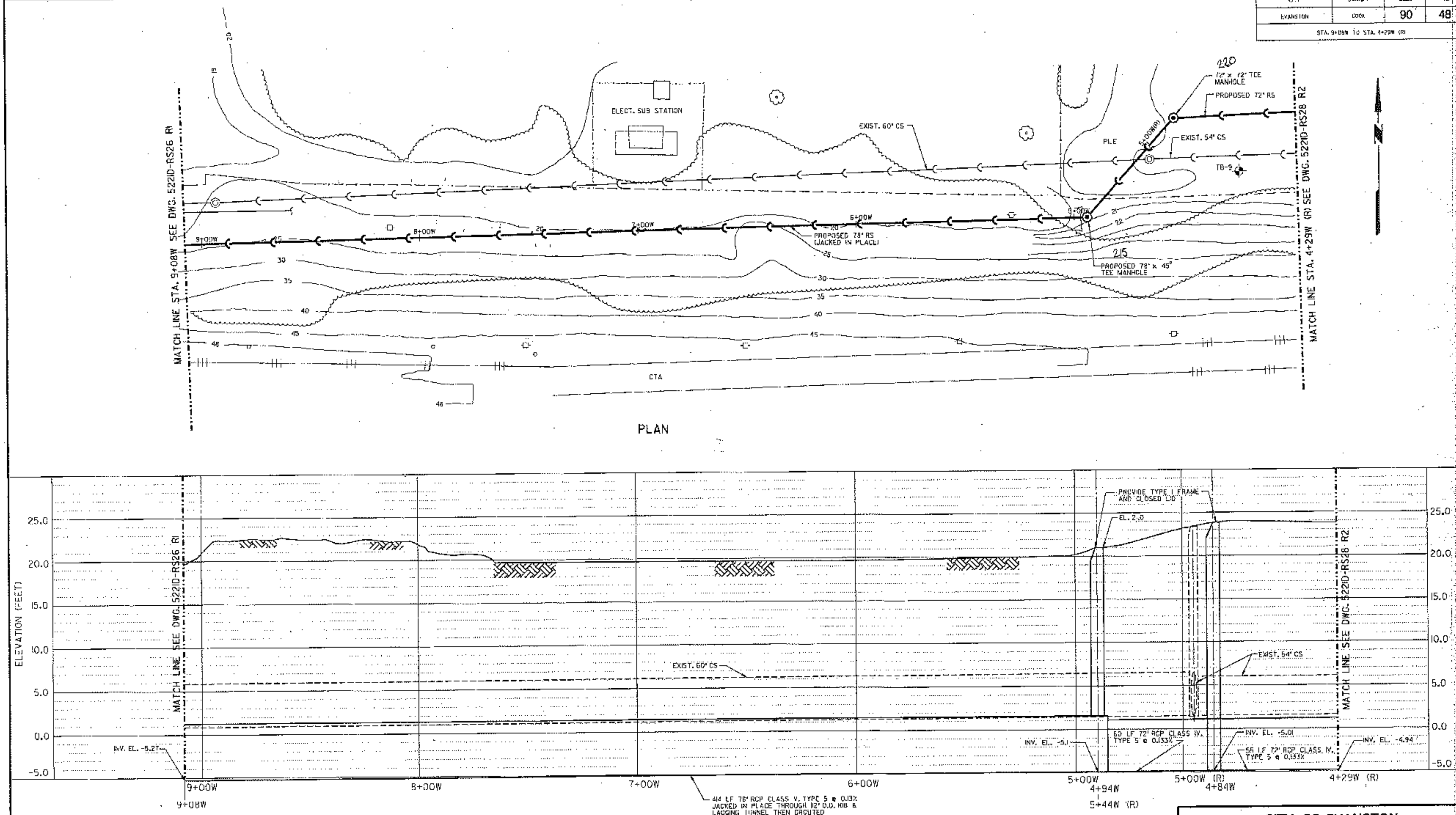
DRAWING NO. 5221D-RS26 R1

5293a/-rs26-1.dgn
SF=100.00,SCH, IN

ATTACHMENT 9

CITY	COUNTY	TOTAL SHEETS	SHEET NO.
EVANSTON	COOK	90	48

STA. 9+08W TO STA. 4+29W (R)



ELECT. SUB STATION
EXIST. 60" CS
72" x 72" TEE MANHOLE
PROPOSED 72" RS
EXIST. 54" CS
PILE
TB-9
PROPOSED 78" RS (JACKED IN PLACE)
PROPOSED 78" x 45° TEE MANHOLE
CTA
MATCH LINE STA. 9+08W SEE DWG. 5221D-RS26 R1
MATCH LINE STA. 4+29W (R) SEE DWG. 5221D-RS28 R2
PLAN
ELEVATION (FEET)
PROVIDE TYPE I FRAME AND CLOSED LID
EL. 2.0
EXIST. 54" CS
EXIST. 60" CS
INV. EL. -5.27
INV. EL. -5.J
INV. EL. -5.01
INV. EL. -4.94
60 LF 72" RCP CLASS IV, TYPE 5 @ 0.133%
55 LF 72" RCP CLASS IV, TYPE 5 @ 0.133%
414 LF 78" RCP CLASS V, TYPE 5 @ 0.13% JACKED IN PLACE THROUGH 112" O.D. RIB & LAGGING TUNNEL THEN GROUTED
9+00W
9+08W
8+00W
7+00W
6+00W
5+00W
4+94W
5+44W (R)
5+00W (R)
4+84W
4+29W (R)
PROFILE

RECORD DRAWING
REVIEWED AND APPROVED BY:

MCNALLY TUNNELING CORPORATION
CONTRACTOR

HARZA ENVIRONMENTAL SERVICES, INC.
ENGINEER

APPROVED

DSGN.		REVIEWED
CHKD.	CIVIL.	
DWN.	MECH.	
CHKD.	ELECT.	
SUBN.		

HORZ. 0 20' 40' 1"=20'-0"

VERT. 0 5' 10' 1"=5'-0"

REV. NO.	DWG. TRANSMITTAL LETTER NO.	DATE	NATURE OF REVISION	BY	CHKD.	APPD.
R3		12/93	RECORD DRAWING		DTG	
R2		5/20/92	72" SEWER ALIGNMENT MODIFIED FROM 4+29W (R) TO 4+94W			
R1		5/31/91	72" SEWER ALIGNMENT MODIFIED FROM 4+64W TO 9+00W; MANHOLE ADDED AT 4+91W			

CITY OF EVANSTON

Evanston, Illinois

BASINS S06 AND S13 FLOOD RELIEF — RELIEF SEWER SYSTEM

MULFORD STREET SEWER PLAN AND PROFILE

STA. 9+08W TO STA. 4+29W (R)

HES HARZA ENVIRONMENTAL SERVICES, INC.

PROJECT MANAGER

CHICAGO, ILLINOIS — DATE FEB. 1991 — DRAWING No. 5221D-RS27 R3

DF - 5221d/rs27r3.dgn
RF - 10003.dgn, r1_grid.dgn